



Launch Mission Execution Forecast

Mission: Falcon 9 Transporter-4

Issued: 31 Mar 2022 / 0815L (1215Z)

Valid: 01 Apr 2022 / 1214 – 1234L (1614 – 1634Z)



Forecast Discussion: After a stretch of beautiful weather in East Central Florida the first half of the week, conditions will deteriorate later today as a cold front approaches from the northwest. By tomorrow, this front will slow down and stall out over the area. This boundary, along with plentiful moisture in place, will bring unsettled weather tomorrow, increasing cloud coverage along with shower and lightning chances. Thus, the primary concerns are the Cumulus Cloud Rule, Surface Electric Fields Rule, and the Thick Cloud Layers Rule.

For the backup day on Saturday, the unsettled pattern remains in place as the front lingers over Central Florida. While the bulk of the thunderstorm activity will likely be later in the afternoon, there will still be enhanced cloud coverage and shower chances. The POV is slightly lower, with the same primary concerns as on Friday's attempt.

Models are in better agreement today regarding the location of the front on Monday. The general consensus is that it will be south of the Spaceport, allowing for drier air to move in, onshore flow, and favorable launch conditions. The primary concern is the Cumulus Cloud Rule.

Launch Day		Probability of Violating Weather Constraints				
70%		Primary Concerns: Cumulus Cloud Rule, Surface Electric Fields Rule, Thick Cloud Layers Rule				
		Weather Conditions			Additional Risk Criteria	
Weather/Visibility: Sct Showers / 7 mi.		Clouds			Upper-Level Wind Shear: Low	
		Type	Coverage	Base (ft)	Tops (ft)	
Temp/Humidity: 76°F / 80%		Cumulus	Scattered	2,500	15,000	Booster Recovery Weather: Low
Liftoff Winds (200'): 290° 10 - 15 mph		Altostratus	Broken	14,000	18,000	Solar Activity: Low-Mod
24-Hour Delay		Probability of Violating Weather Constraints				
50%		Primary Concerns: Cumulus Cloud Rule, Surface Electric Fields Rule, Thick Cloud Layers Rule				
		Weather Conditions			Additional Risk Criteria	
Weather/Visibility: Sct Showers / 7 mi.		Clouds			Upper-Level Wind Shear: Low-Mod	
		Type	Coverage	Base (ft)	Tops (ft)	
Temp/Humidity: 75°F / 73%		Cumulus	Scattered	2,500	15,000	Booster Recovery Weather: Low
Liftoff Winds (200'): 090° 7 - 12 mph		Cirrostratus	Broken	20,000	24,000	Solar Activity: Low-Mod
72-Hour Delay		Probability of Violating Weather Constraints				
20%		Primary Concerns: Cumulus Cloud Rule				
		Weather Conditions			Additional Risk Criteria	
Weather/Visibility: None / 7 mi.		Clouds			Upper-Level Wind Shear: Low	
		Type	Coverage	Base (ft)	Tops (ft)	
Temp/Humidity: 76°F / 63%		Cumulus	Scattered	3,000	8,000	Booster Recovery Weather: Low
Liftoff Winds (200'): 090° 10 - 15 mph						Solar Activity: Low
Note: The Probability of Violation (POV) is the chance that a Lightning Launch Commit Criteria (LLCC) or certain user constraints (surface winds, precipitation, and temperatures, etc.) will be violated during the launch window. It does not take into account upper-level wind shear, booster recovery weather, and solar activity.						
Next Forecast Will Be Issued		As Required				